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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,116	04/03/2001	Hidefumi Yoshida	1324.65392	1703
7590 10/06/2003				
Patrick G. Burns, Esq. GREER, BURNS & CRAIN, LTD. 300 South Wacker Dr., Suite 2500 Chicago, IL 60606		EXAMINER ERDEM, FAZLI		
		ART UNIT 2826 PAPER NUMBER		

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Applicati n No.</b>	<b>Applicant(s)</b>	
	09/825,116	YOSHIDA ET AL.	
	<b>Examin r</b>	<b>Art Unit</b>	
	Fazli Erdem	2826	

-- The MAILING DATE of this communication appears on the cov r sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 April 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 16-20, 31, 32, 38-42, 45, 49, 50 and 54-57 is/are rejected.
- 7) ☒ Claim(s) 5-15, 21-30, 33-37, 43, 44, 46-48 and 51-53 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Allowable Subject Matter***

1. Claims 5-15, 21-30, 33-37, 43, 44, 46-48, 51-53 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 rejected under 35 U.S.C. 103(a) as being unpatentable over Mazaki et al. (5,883,685) in view of Nito et al. (5,659,411).

Regarding Claims 1-4, Mazaki et al. disclose a compensating film for a liquid crystal display and an OCB Mode liquid crystal display incorporating the compensating film where a compensation film capable of making color compensation and attaining such a viewing angle expansion is provided. Compensating film constituted by at least one layer of a compensating film to be used in an OCB mode liquid crystal display, the compensating film being formed by a discotic liquid crystalline material having a fixed orientation form of a discotic liquid crystal, the compensating film being disposed between a driving liquid crystal cell and a pair of upper and lower polarizing plates, and the orientation form being a hybrid orientation in which the angle between discotic liquid crystal directors near the upper interface of the film and the film plane

and the angle between discotic liquid crystal directors near the lower interface of the film and the film plane are different from each other. Mazaki et al. fail to disclose the tilt/angel requirement. However, Nito et al. disclose an optical device having an optically transparent birefringent medium that selectively shifts the optical axis where the required tilt/angle structure is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required tilt/angle structure in Mazaki et al. as taught by Nito et al. in order to have a liquid crystal display device with better performance.

3. Claims 16-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al. (5,940,155) in view of Hanmer et al. (6,379,758) further in view of Verrall et al. (6,54,605).

Regarding Claims 16-20, Yang et al. disclose liquid crystal displays containing tilted optical axis compensation films having a negative birefringence where an optical compensation arrangement using tilted-optica-axis compensation films with negative birefringence for low twist angle nematic liquid crystal cells to achieve better viewing angle characteristics than a regular 90 degrees twist nematic cell with similar high contrast ratio and brightness as the regular twisted nematic cell near normal incidence at a comparable operating voltage. Yang et al. fail to disclose the required retardation and polarizer structures. However, Hanmer et al. disclose a liquid crystal display device where the required retardation structure is disclosed. Furthermore, Verrall et al. disclose combination of optical elements where the required polarizer structure is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required retardation and polarizer structures in Yang et al. as

taught by Hanmer et al. and Verrall et al. respectively in order to have a liquid crystal display device with better performance.

4. Claims 31 and 32 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamahara (6,137,556) in view of Miyashita et al. (5,548,426).

Regarding Claims 31 and 32, Yamahara discloses a liquid crystal display device composed of at least one optical retardation compensator plate inserted between a liquid crystal display element and polarizer plates. The liquid crystal display element is composed of a pair of electrode substrates and a liquid crystal layer sealed in between. The polarizer plates flank the liquid crystal display element. The optical retardation compensator plate has a negative refractive index anisotropy. The direction of a principal refractive index parallel to the normal to the surface and the direction of either a principal refractive index in the surface incline either clockwise or counterclockwise around the direction of the principal refractive index in the surface. Moreover, either the pretilt angle formed by orientation films and the longer axes of the liquid crystal molecules in the crystal layer or the value of applied voltage for displaying half tone obtained by applying to the liquid crystal a voltage that is close to the threshold voltage for the liquid crystal is set within such a range that tone reversion does not occur in the opposite viewing direction when half tone is being displayed. Yamahara fails to disclose the required polarizing structure. However, Miyashita et al. disclose a liquid crystal display device where the required polarizing structure is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include required polarizing structure in Yamahara as taught by Miyashita et al. in order to have a liquid crystal display device with better performance.

5. Claims 1-4 rejected under 35 U.S.C. 103(a) as being unpatentable over Mazaki et al. (5,883,685) in view of Nito et al. (5,659,411) further in view of Yamahara (6,137,556).

Regarding Claims 1-4, Mazaki et al. disclose a compensating film for a liquid crystal display and an OCB Mode liquid crystal display incorporating the compensating film where a compensation film capable of making color compensation and attaining such a viewing angle expansion is provided. Compensating film constituted by at least one layer of a compensating film to be used in an OCB mode liquid crystal display, the compensating film being formed by a discotic liquid crystalline material having a fixed orientation form of a discotic liquid crystal, the compensating film being disposed between a driving liquid crystal cell and a pair of upper and lower polarizing plates, and the orientation form being a hybrid orientation in which the angle between discotic liquid crystal directors near the upper interface of the film and the film plane and the angle between discotic liquid crystal directors near the lower interface of the film and the film plane are different from each other. Mazaki et al. fail to disclose the retardation and the polarizer requirement. However, Nito et al. disclose an optical device having an optically transparent birefringent medium that selectively shifts the optical axis where the required retardation structure is disclosed. Furthermore, Yamahara discloses a liquid crystal display device where the required polarizer structure is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required retardation and polarizer structures in Mazaki et al. as taught by Nito et al. and Yamahara in order to have a liquid crystal display device with better performance.

6. Claims 45, 49 and 50 rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al. (5,940,155) in view of Nito et al. (5,659,411) in view of Yamahara (6,137,556) further in view of Miyashita et al. (5,548,426).

Regarding Claims 45, 49 and 50, Yang et al. disclose liquid crystal displays containing tilted optical axis compensation films having a negative birefringence where an optical compensation arrangement using tilted-optical-axis compensation films with negative birefringence for low twist angle nematic liquid crystal cells to achieve better viewing angle characteristics than a regular 90 degrees twist nematic cell with similar high contrast ratio and brightness as the regular twisted nematic cell near normal incidence at a comparable operating voltage. Yang et al. fail to disclose the required tilt, angle, and refractive index structures. However, Nito et al. disclose an optical device having an optically transparent birefringent medium that selectively shifts the optical axis where the required tilt structure is disclosed. Furthermore, Yamahara discloses a liquid crystal display device where the required angle structure is disclosed. Miyashita et al. disclose a liquid crystal display device where the required refractive index structure is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required tilt, angle, and refractive index structure in Yang et

al. as taught by Nito et al., Yamahara, and Miyashita respectively in order to have a liquid crystal display device with better performance.

7. Claims 54-57 rejected under 35 U.S.C. 103(a) as being unpatentable over Verrall et al. (6,544,605) in view of Mazaki et al. (5,883,685).

Regarding Claims 54-57, Verrall et al. disclose combination of optical elements comprising at least one optical retardation film and at least one broadband reflective polarizer, characterized in that the optical retardation film is comprising at least one layer of an anisotropic polymer material having an optical symmetry axis substantially parallel to the plane of the layer. Verrall et al. fail to disclose the required polarizing structure. However, Mazaki et al. disclose a compensating film for a liquid crystal display and an OCB Mode liquid crystal display incorporating the compensating film where the required polarizing structure is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required polarizing structure in Verrall et al. as taught by Mazaki et al. in order to have a liquid crystal display device with better performance.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fazli Erdem whose telephone number is (703) 305-3868. The examiner can normally be reached on M - F 8:00 - 5:00.




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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

FE



NATHAN J. FLYNN  
SUPERVISORY PATENT EXAMINER  
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